

Title (en)
ENGINE UNIT MOUNTABLE IN A VEHICLE COMPRISING A SYNCHRONOUS DRIVE MOTOR

Title (de)
IN EINEM KFZ MONTIERBARE MOTOREINHEIT UMFASSEND EINEN SYNCHRONEN ANTRIEBSMOTOR

Title (fr)
UNITÉ DE MOTEUR MONTABLE DANS UN VÉHICULE COMPRENANT UN MOTEUR SYNCHRONE

Publication
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Application
EP 14734926 A 20140527

Priority
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• JP 2014064560 W 20140527

Abstract (en)
[origin: WO2015022803A2] To provide a synchronous drive motor that satisfies a high torque, a high output, and downsizing at a higher level. A synchronous drive motor includes: a stator including a stator core and windings, the stator core including a plurality of teeth that are spaced from each other by a slot formed therebetween with respect to a circumferential direction, the winding extending through the slot, each of the plurality of teeth including a portion wound with the winding; and a rotor including a permanent magnet part that forms a plurality of magnetic pole faces, the plurality of magnetic pole faces being provided on a surface of the rotor opposed to the stator. Each of the plurality of teeth includes a distal end portion that is opposed to the magnetic pole face. The distal end portion has a smaller circumferential width than a circumferential width of the magnetic pole face, the number of the magnetic pole faces being more than the number of the teeth.

IPC 8 full level
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• GB 2220529 A 19900110 - PHILIPS NV [NL]
• DE 29712973 U1 19981119 - STROTHMANN ROLF DR RER NAT [DE]
• JP 2013118809 A 20130613 - SAMSUNG ELECTRO MECH
• US 2010295406 A1 20101125 - LIAO GORDON [TW]
• EP 0982425 A2 20000301 - MIELE & CIE [DE]
• EP 1505714 A1 20050209 - MITSUBA CORP [JP]
• EP 1589639 A1 20051026 - PHELON CO INC [US]
• "Brushless Permanent Magnet Motor Design", 1 January 2006, MAGNA PHYSICS PUBLISHING, Lebanon, Ohio, USA, ISBN: 978-1-881855-15-6, article DUANE HANSELMAN: "Chapter 1", pages: 1 - 14, XP055401636
• "Brushless Permanent Magnet Motor Design", 1 January 2006, MAGNA PHYSICS PUBLISHING, Lebanon, Ohio, USA, ISBN: 978-1-881855-15-6, article DUANE HANSELMAN: "Chapter 10", pages: 229 - 334, XP055421645

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